

Thursday, 02/04/2009 9:07:58 AM  
 Julie Dawson

## Process Sheet

<b>Customer</b> :	CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> :	350 SKIDTUBE ASSEMBLY LH
<b>Job Number</b> :	46793		
<b>Estimate Number</b> :	10266		
<b>P.O. Number</b> :		<b>Part Number</b> :	D350636013
<b>This Issue</b> :	02/04/2009	<b>S.O. No.</b> :	
<b>Prsht Rev.</b> :	NC	<b>Drawing Number</b> :	D2750 REV F
<b>First Issue</b> :	//	<b>Project Number</b> :	N/A
<b>Previous Run</b> :	45291	<b>Drawing Revision</b> :	F
	<b>Type</b> :	<b>Material</b> :	
	SKIDTUBES	<b>Due Date</b> :	17/04/2009
<b>Written By</b> :		<b>Qty:</b>	1 Um: Each
<b>Checked &amp; Approved By</b> :	<u>JUD 09-04-02</u>		
<b>Comment</b> :	Est Rev:H 02.09.25 Rearranged procedure steps KJ est rev I 06.03.30 Per rev. D dwg EC Est Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC Est Rev:K 08-09-23 revF as per dwg DD verified by:ec Est Rev:L 09-02-06 apply antiseize on AN8C21A bolts as per PAR09-010 DD verified by:EC		

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0	DC	DOCUMENT CONTROL
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JUD 09/04/20



Comment: DOCUMENT CONTROL

Photocopy blue file and type labels per PPP D350-636-013 CHG 004

09/05/19

2.0	D26003BENT	Extrusion Bent
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Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number	Description	Batch
1 D2600-3-Bent	Extrusion (Bent)	<u>B-15897</u>

09-04-02 (2)

3.0	D2744	Cap
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Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Cap

Batch: 2427B BE 09/04/10

4.0	SKIDTUBES 1	SKIDTUBESS RESOURCE 1
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Comment: LANDING GEAR RESOURCE 1


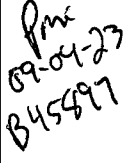

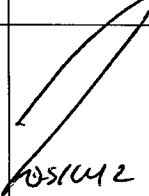

1- Mark cut line on aft end of D2600-3-Bent using Jig DT 8150. Cut to length as per Dwg D2750. Deburr end

2-Drill pilot holes as per Dwg D2750 sheet 6 (D2750-3 details).Drill using drill Jig DT8150 &amp; DT8864 .

09-04-02 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D350-636-013 PAR #: N/A Fault Category: Prod / Skid tube NCR: Yes No DQA: D Date: 09/05/27  
 Resolution: SCRAP Disposition: Scrap QA: N/C Closed: D Date: 09/05/27

NCR: <u>46793</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
09-04-15	4.1	Tube was cut too short @ the fixed height. Step holes are (Pilot holes) are 0.200" from the top of the tube. Saw was not re-adjusted for the cut of this tube. R.C! human error.		Scrap & destroy tube. Replace B <u>45897</u>	 09-04-27 B45897	 09-04-27	 09-04-27	 09-04-27

NOTE: Date & initial all entries

Date: Thursday, 02/04/2009 9:07:58 AM  
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## Process Sheet

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Drawing Name: 350 SKIDTUBE ASSEMBLY LH

Job Number: 46793

Part Number: D350636013

Job Number:



Seq. #:

Machine Or Operation:

Description :

3- Mark fwd end for cutting using Drill Jig DT 8150 & DT8864 and cut as per dwg D2750.

4-Drill pilot holes for the blade fitting bolt holes using DT8983. Open to 0.500".

5- locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting.

6-Open up holes for SECTION AW-AW to 0.375" (2 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open holes for ground handling and detail T to 0.500" (8 holes per side)

7-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 and open to 0.297"

8-Open up holes of Detail S to 0.297" (total of 2 holes per side)

9-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left from bending as per QSI 004  
A/R Aluminum Rod *M110472 BE, 09/04/16*

12-Grind welds flush as per Dwg D2750 *K 9-4-16*

13- scribe batch #.

*pm 09-04-16 (1)*

5.0

QC10

VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

*S 09/04/16 (1)*

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*S 09/04/16 (1)*

7.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

*pm 09-04-17 (1)*

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

*BE 09-04-17*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Drawing Name: 350 SKIDTUBE ASSEMBLY LH

Job Number: 46793

Part Number: D350636013

Job Number:



Seq. #:

Machine Or Operation:

Description :

9.0

D2739

350 I Beam



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Web

Batch:

B47124

pm 09-04-17

10.0

D34901

Cross Bolt Spacer



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Crossbolt spacer

Batch:

46992

8T 09-04-22

11.0

D34905

Cross Bolt Spacer



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Crossbolt spacer

Batch:

43015

8T 09-04-22

12.0

D2743

Crossbolt Spacer



Comment: Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)

Crossbolt Spacer

Batch:

45555

8T 09-04-22

13.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open up holes section AW-AW 0.500" (4 per side) as per dwg D2750

2- Open holes section AV-AV 0.3125" (4 per side)

3-Open up holes of Detail T and ground handling to 0.625" (total of 8 holes per side) as per dwg D2750.

4-Chamfer holes of section AW-AW, AV-AV, T and ground handling. (welding instructions on sheet 10)

5-Deburr and blow out all chips from inside of tube. Prepare tube for welding, remove alodine as required.

6-Bond web D2739 in place as per QSI 015

A/R

Sikaflex-291

batch:

milllogi

exp. date:

10-01-20

pm 09-04-17

pm 09-04-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Job Number: 46793

Part Number: D350636013

Job Number:



Seq. #: Machine Or Operation: Description :

7- Weld spacers D3490-1, D3490-5 and D2743 as per dwg D2750 & QSI004

(welding instructions on sheet 10)

A/R Aluminum Rod batch: *M110972 BE 09/04/22*

8-Grind welds flush as per Dwg D2750 *BE 09/04/22*

9-Spot face ground handling holes (total of 4 places per side) as per dwg D2750

10-Deburr holes

*> Pm 09-04-230*

14.0

QC10

VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

*S 09/04/23 (X)*

15.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*S 09/04/23 (X)*

16.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Pressure wash as per QSI 005

*AL 09-05-11 (X)*

17.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat Gloss White (Ref. 4.3.5.1) as per Dart QSI 005 4.3

*FR 09/05/11 (1) (A) (X)*

18.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

Inspect for foreign object per QSI 024

*09-05-14 (X)*

19.0

ALS41032225

Insert



Comment: Qty.: 38.0000 Each(s)/Unit Total: 38.0000 Each(s)

Insert

Batch: *M110768*

*M 09-05-14 (X)*

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
09/05/11	170	start time: 12:50 Temp: 320° Finish time: 1:20	FL	09/05/11	①		S 09/05/11

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE ASSEMBLY LH

Job Number: 46793

Part Number: D350636013

Job Number:



Seq. #:

Machine Or Operation:

Description :

20.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1  
1-Install inserts as per dwg D2750

JP 09-05-14 (X)

21.0

D2745

Bushing



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)  
Bushing  
Batch: 1346695

JP

22.0

D37911

Wearplate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
Wearplate  
Batch: 1347536

JP

23.0

D37931

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
Wearshoe  
Batch: 1347537

JP

24.0

D37933

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
Wearshoe  
Batch: 1347211

JP

25.0

D37941

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
Gasket  
Batch: 1347721

JP

26.0

D37943

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
Gasket  
Batch: 1347440

JP

09-05-14 (X)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Job Number: 46793

Part Number: D350636013

Job Number:



Seq. #:

Machine Or Operation:

Description :

27.0

D353525

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B47204

JH

28.0

D353625

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B47526

JH

29.0

D35371

Wearpad



Comment: Qty.: 3.0000 Each(s)/Unit Total : 3.0000 Each(s)

WEARPAD

Batch: B47530

JH

30.0

D36311

Washer



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

WASHER

Batch: B47437

JH

31.0

D3488041

Blade Fitting Assembly, LH



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Blade Fitting, LH

Batch: B41853

JH

32.0

NAS1611010

O-RING



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

O-RING

NAS1611-010 batch: \_\_\_\_\_

(or MS28775-010) batch: \_\_\_\_\_

09-05-14

JH

PTO=?

33.0

D34921

Plug



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

Plug

batch: B47472

JH

09-05-14

21

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
09-05-14	320	Replace "O" rings NAS1611-010 with Q2594-3 1329908	gll	09-05-14	18		<i>[Signature]</i>	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Drawing Name: 350 SKIDTUBE ASSEMBLY LH

Job Number: 46793

Part Number: D350636013

Job Number:



Seq. #:	Machine Or Operation:	Description :
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34.0	NAS1611005	O-RING
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Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)  
O-RING *11 106099* *24*

35.0	D34925	Plug
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Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)  
Plug  
Batch: *(1x) 1347659 (17x) D3492-045/1343452* *24*

36.0	AN3C5A	Bolt
------	--------	------



Comment: Qty.: 34.0000 Each(s)/Unit Total : 34.0000 Each(s)  
Bolt  
Batch: *11 121707* *24*

37.0	AN3C6A	BOLT
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Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)  
Bolt  
Batch: *11 110372* *24*

38.0	AN6C44A	BOLT
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Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)  
BOLT  
Batch: *11 110865* *24*

39.0	AN8C35A	BOLT
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
BOLT  
Batch: *11 110105* *24*

40.0	AN960C10L	washer
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Comment: Qty.: 38.0000 Each(s)/Unit Total : 38.0000 Each(s)  
washer  
Batch: *11 111668* *24* *09-05-14* *(24)*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Part Number: D350636013

Job Number:



Seq. #:	Machine Or Operation:	Description :
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41.0	AN960C816L	WASHER
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WASHER

Batch: M110372

*ly*

42.0	MS210436	NUT
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Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

NUT

Batch: M110584

*ly*

43.0	MS21083C8	NUT
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

NUT

Batch: M110584

*ly*

44.0	NAS1515H3L	WASHER
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Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

WASHER

Batch: M110806

*ly*

45.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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Comment: HAND FINISHING RESOURCE #1

✓ 1-Inspect for Foreign Objects

✗ 2-Spray inside of tube with "LPS-3" batch: N/A

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750

SIKA FLEX 241

✓ BATCH: M111081

EXP DATE: 10/20

✓ 4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube

A/R 55-o'ring lube batch: M101223

✓ 5-Coat all exposed fasteners with "LPS Procyon" batch: 104251 *ly* 09-05-14 *ly*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Job Number:



Seq. #:

Machine Or Operation:

Description :

46.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

09/05/15 (FO)

47.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1  
Pick Packing Kit

48.0

D2741

Blade, 350 Skidtube



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
Blade  
Batch: B45320

9/5/19

SP

49.0

AN960C816L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)  
Washer  
Batch: M111424

9/5/19

SP

50.0

MS21083C8

NUT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)  
Nut  
Batch: M111637

9/5/19

SP

51.0

AN8C21A

BOLT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)  
Bolt  
Batch: M110478

\*\*\*\*\* apply antiseize prior to packaging\*\*\*\*\*

Batch: M110678

7/5/19

SP

52.0

NAS1515H8L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)  
WASHER  
Batch: M1108961

9/5/19

SP

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Job Number:



Seq. #:

Machine Or Operation:

Description :

53.0

D34931

Washer



(12)

Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

WASHER

Batch: D44902

9/5/19

54

54.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

\*\*\*\*\*ensure antiseize is on AN8C21A bolts\*\*\*\*\*

8 09/05/19 @

55.0

PACKAGING 1

PACKAGING RESOURCE #1



(10)

Comment: PACKAGING RESOURCE #1

Package as per PPP D350-636-013

Per G 9/6/20

54

56.0

QC21

FINAL INSPECTION/W/O RELEASE



09/05/20

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



mf 09-05-25

B46793

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

8 7 6 5 4 3 2 1

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

# GENERAL NOTES:

- MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:  
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.  
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ( $\phi 0.297$ ) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:  
MINIMUM YIELD TENSILE STRENGTH = 35 KSI  
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.  
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

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F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/-3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/-3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	PORT HADLOCK, WA	DART AEROSPACE USA, INC.	
DRAWN		DRAWING NO. REV. F	
CHECKED		D2750 SHEET 1 OF 11	
MFG. APPR.		TITLE SCALE	
APPROVED		350 SKIDTUBE ASSEMBLY NTS	
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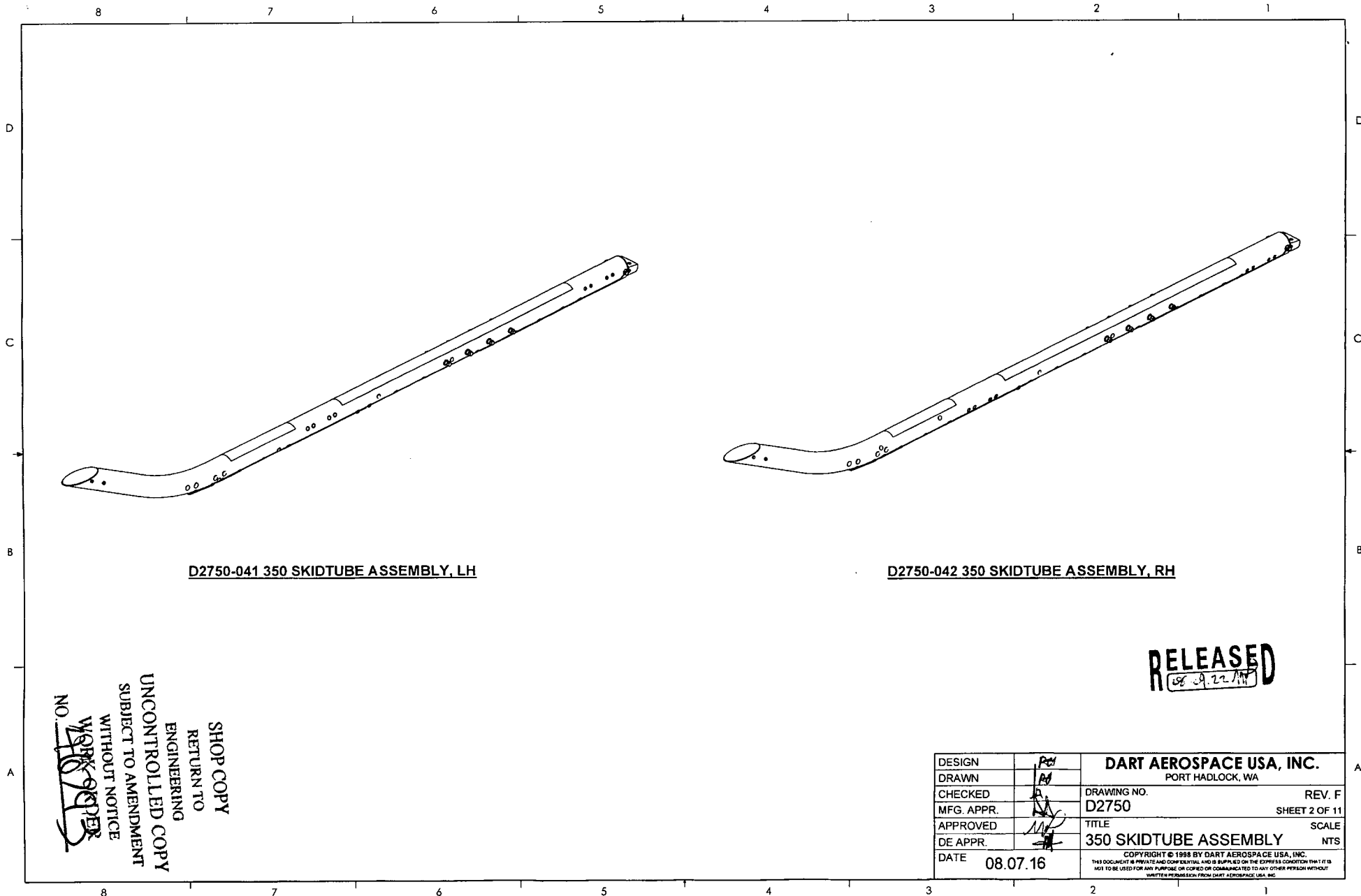
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

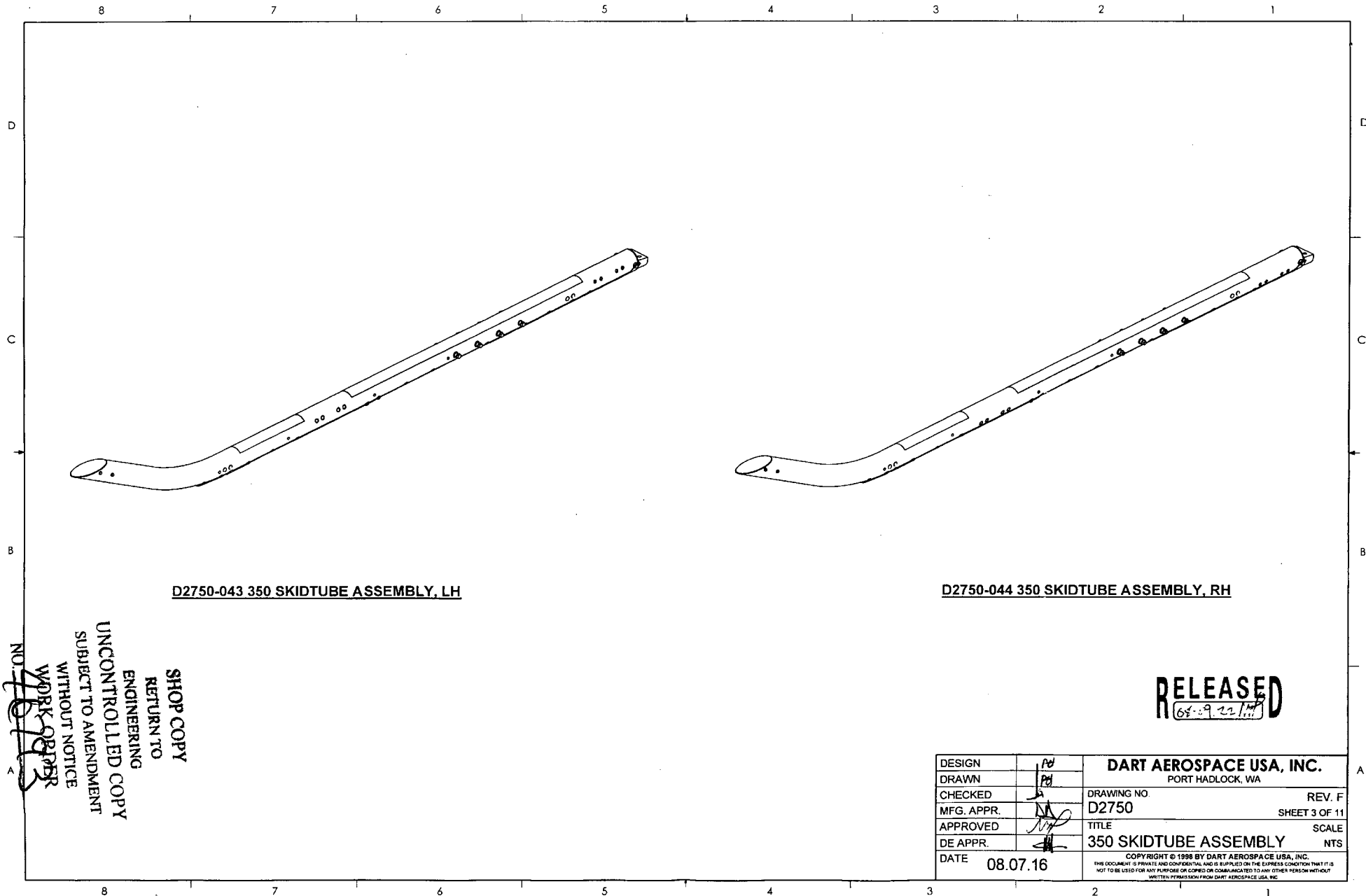
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**NOTE:** Date & initial all entries





D2750-043 350 SKIDTUBE ASSEMBLY, LH

D2750-044 350 SKIDTUBE ASSEMBLY, RH

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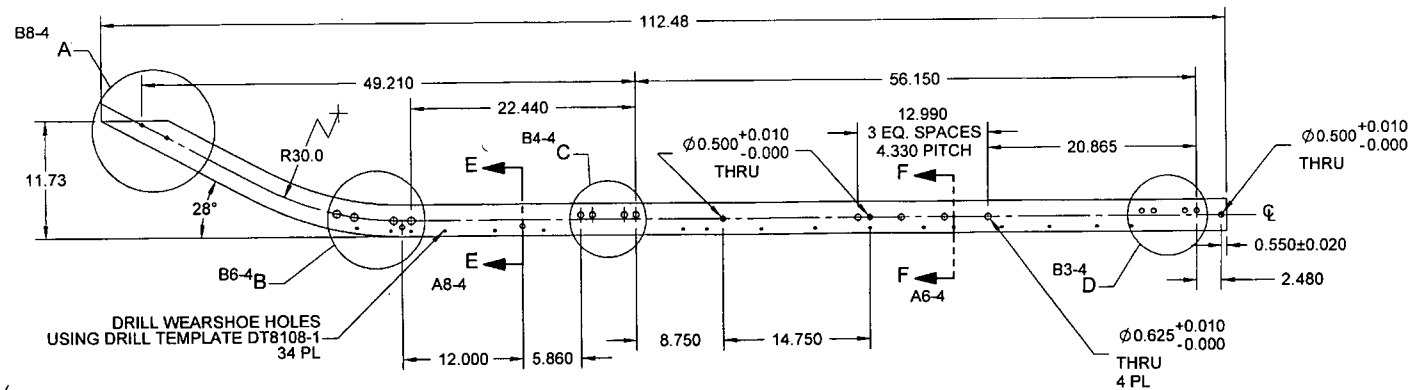
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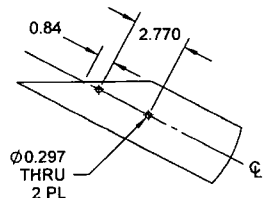
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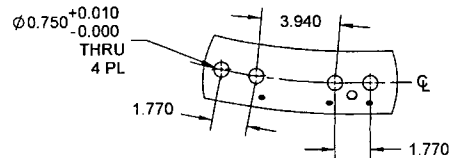
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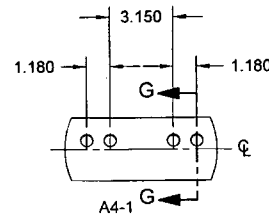
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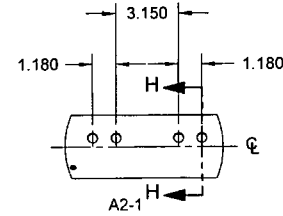
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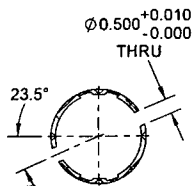
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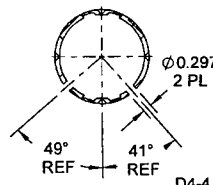
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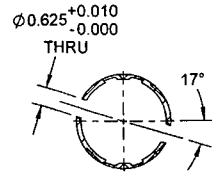
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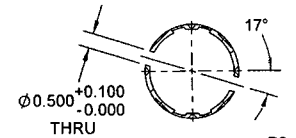
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**SECTION F-F**  
SCALE 3X, 17 PL



**SECTION G-G**  
SCALE 3X, 4 PL



**SECTION H-H**  
SCALE 3X, 4 PL

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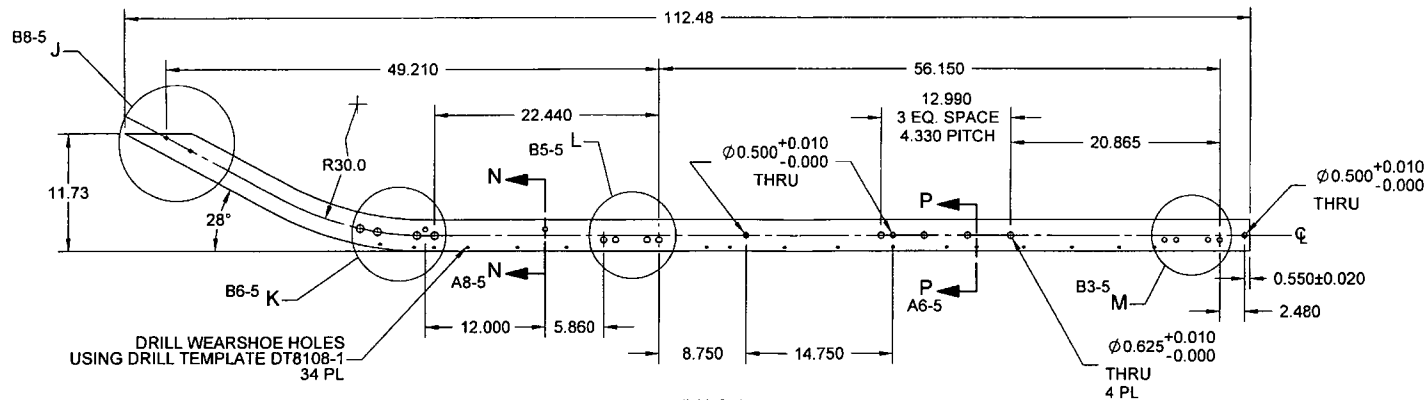
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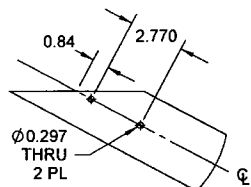
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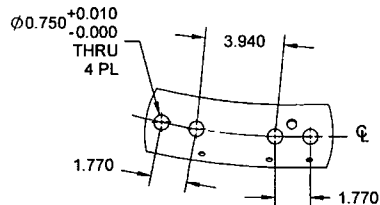
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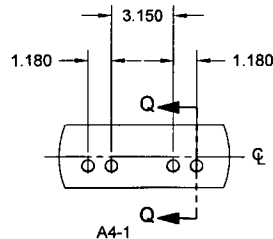
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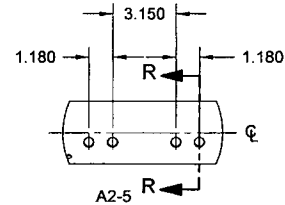
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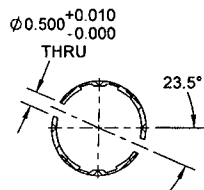
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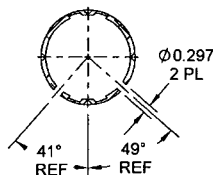
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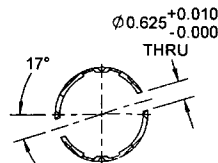
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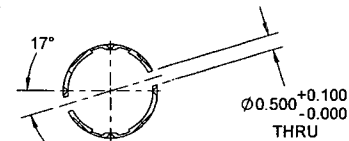
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**SECTION P-P**  
SCALE 3X, 17 PL



**SECTION Q-Q**  
SCALE 3X, 4 PL



**SECTION R-R**  
SCALE 3X, 4 PL

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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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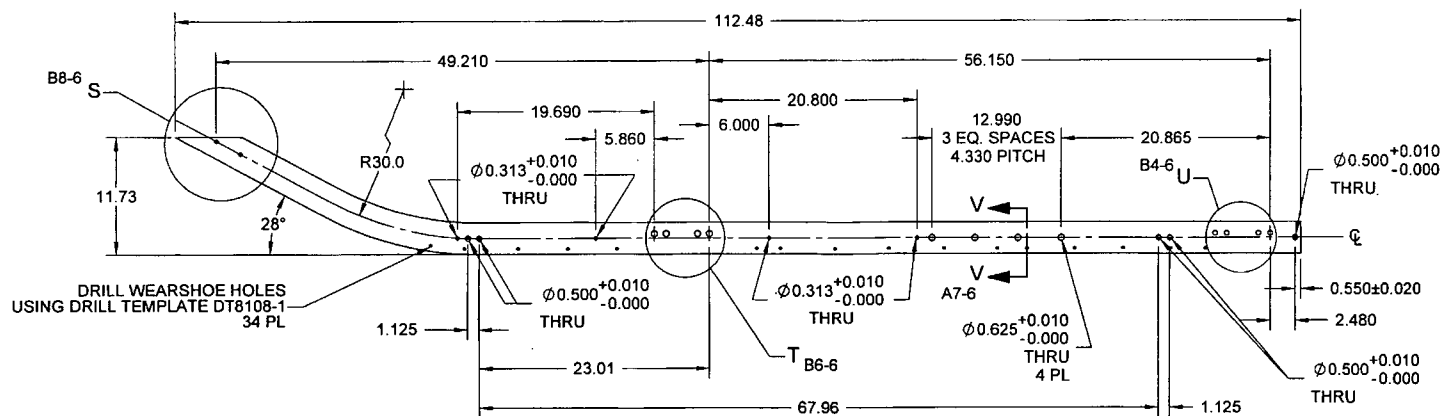
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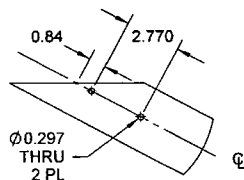
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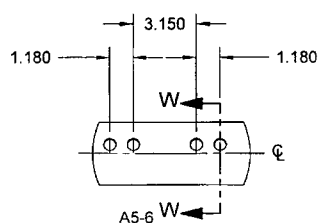
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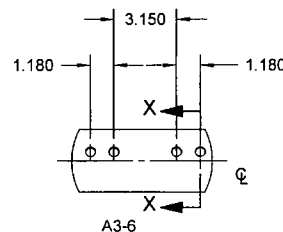
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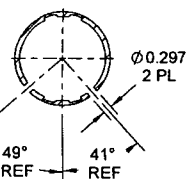
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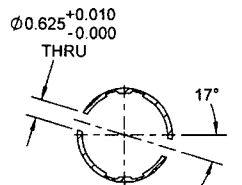
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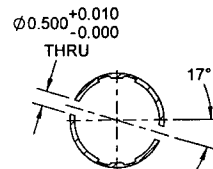
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**SECTION V-V**  
SCALE 3X, 17 PL  
C4-6



**SECTION W-W**  
SCALE 3X, 4 PL  
B6-6



**SECTION X-X**  
SCALE 3X, 4 PL  
B4-6

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

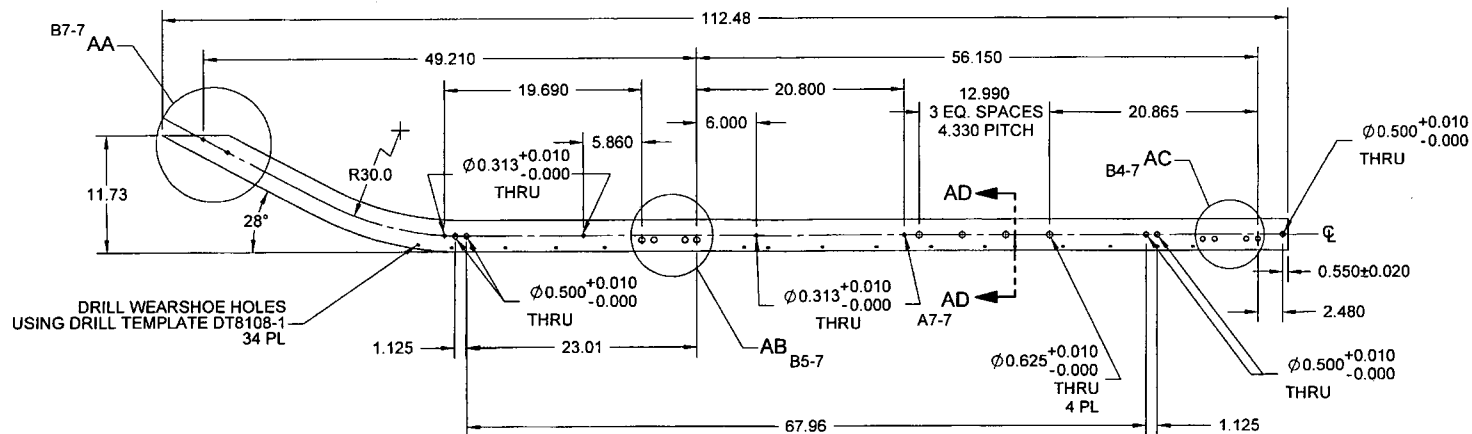
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

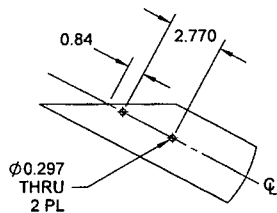
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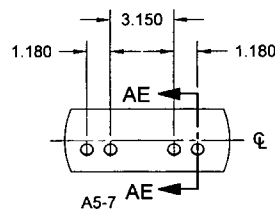




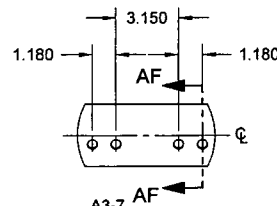
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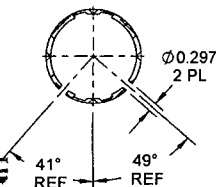
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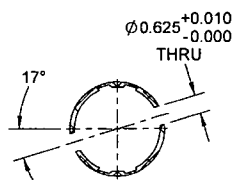
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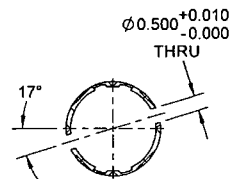
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**SECTION AD-AD**  
SCALE 3X, 17 PL



**SECTION AE-AE**  
SCALE 3X, 4 PL



**SECTION AF-AF**  
SCALE 3X, 4 PL

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08-04-22

DESIGN		<b>DART AEROSPACE USA, INC.</b>	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO. <b>D2750</b>	REV. F
MFG. APPR.			SHEET 7 OF 11
APPROVED		TITLE <b>350 SKIDTUBE ASSEMBLY</b>	SCALE
DE APPR.			NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

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WORK ORDER  
NO. 40673  
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SUBJECT TO AMENDMENT

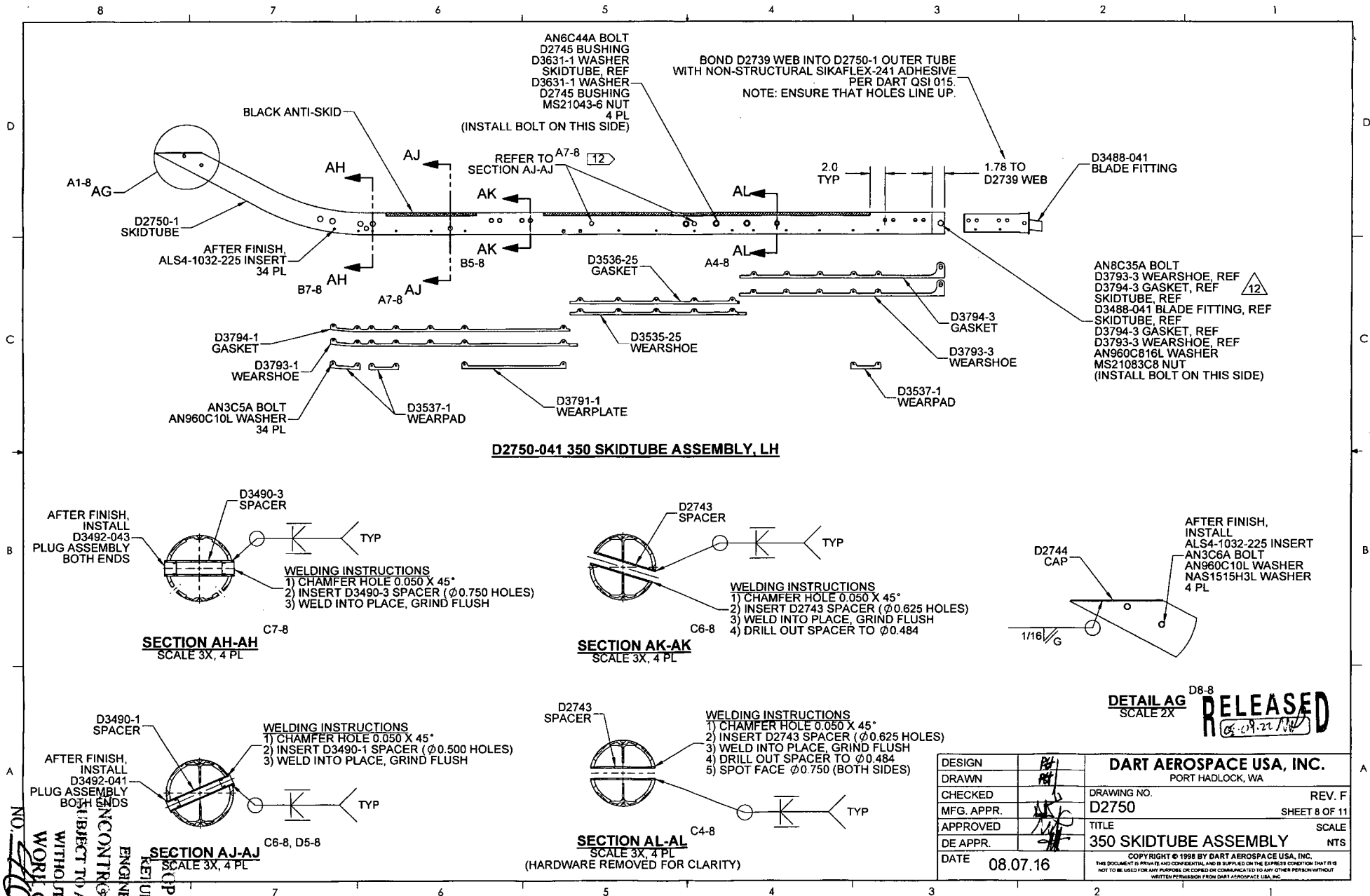
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DETAIL A8  
SCALE 2X

D8-8  
**RELEASED**  
06.07.16

DESIGN	PA	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	PA	PORT HADLOCK, WA	
CHECKED	AK	DRAWING NO.	REV. F
MFG. APPR.	AK	D2750	SHEET 8 OF 11
APPROVED	AK	TITLE	SCALE
DE APPR.	AK	350 SKIDTUBE ASSEMBLY	NTS
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AFTER FINISH, INSTALL D3492-041 PLUG ASSEMBLY BOTH ENDS

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



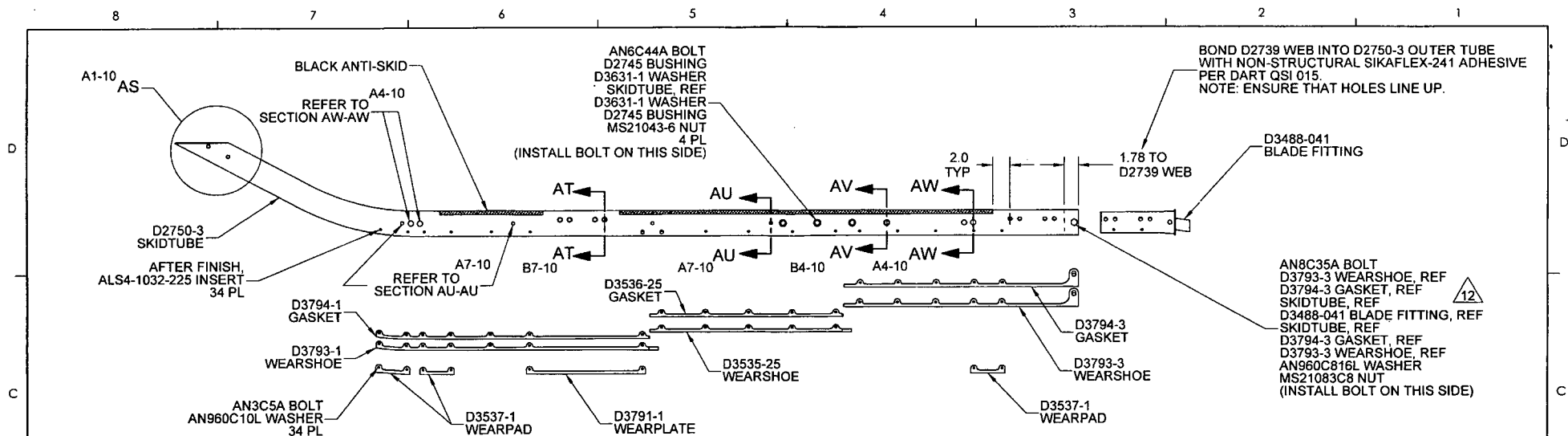
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

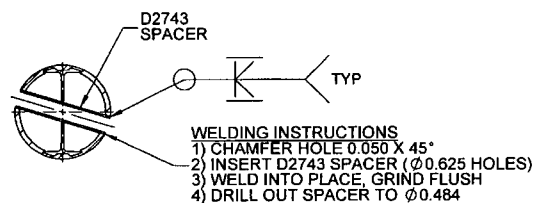
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

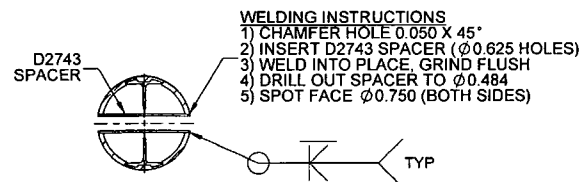
**NOTE:** Date & initial all entries



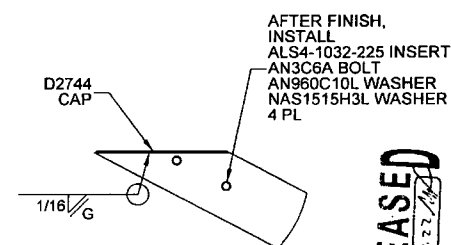
### D2750-043 350 SKIDTUBE ASSEMBLY, LH



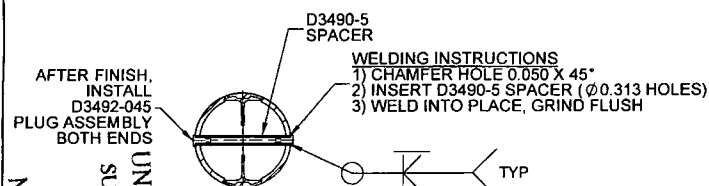
**SECTION AT-AT**  
SCALE 3X, 4 PL



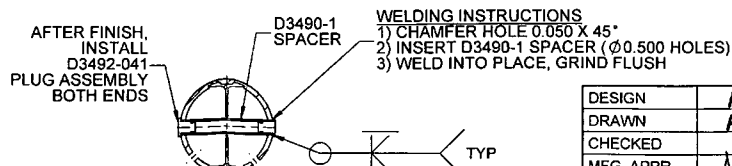
**SECTION AV-AV**  
SCALE 3X, 4 PL  
(HARDWARE REMOVED FOR CLARITY)



**DETAIL AS**  
SCALE 2X



**SECTION AU-AU**  
SCALE 3X, 4 PL



**SECTION AW-AW**  
SCALE 3X, 4 PL

DESIGN		<b>DART AEROSPACE USA, INC.</b>	
DRAWN		PORT HADLOCK, VA	
CHECKED		DRAWING NO. <b>D2750</b>	REV. F
MFG. APPR.			SHEET 10 OF 11
APPROVED		TITLE <b>350 SKIDTUBE ASSEMBLY</b>	SCALE
DE APPR.			NTS
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

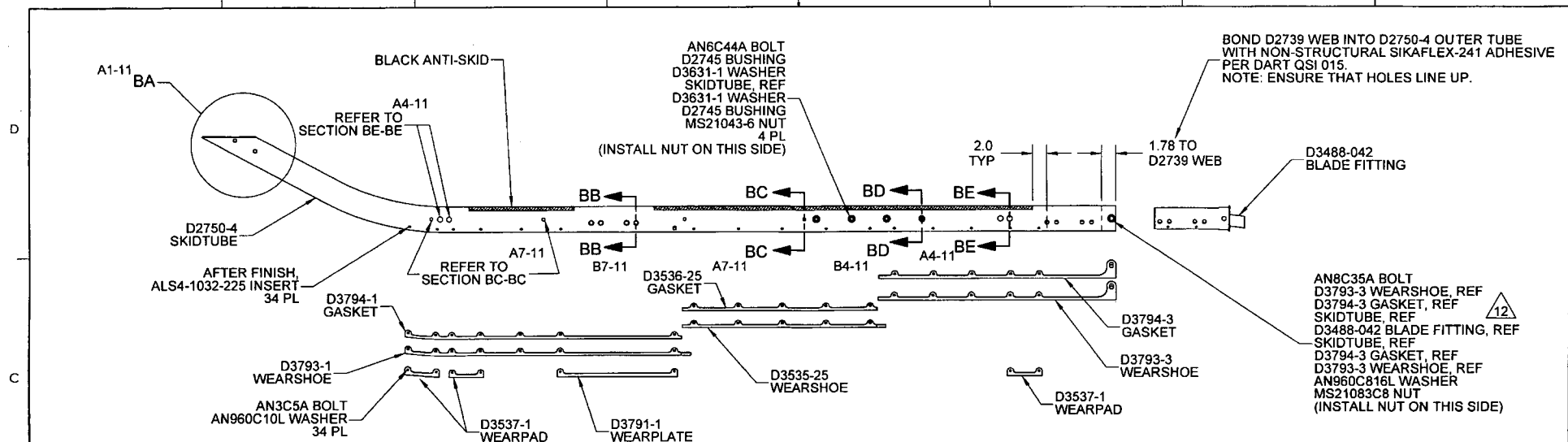
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

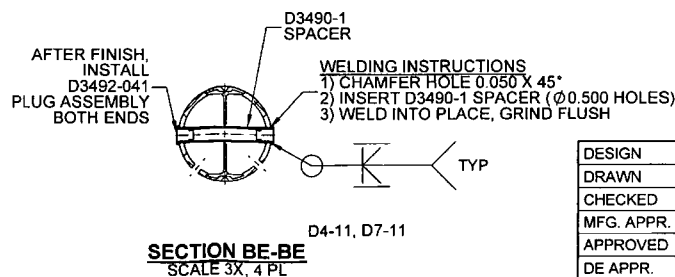
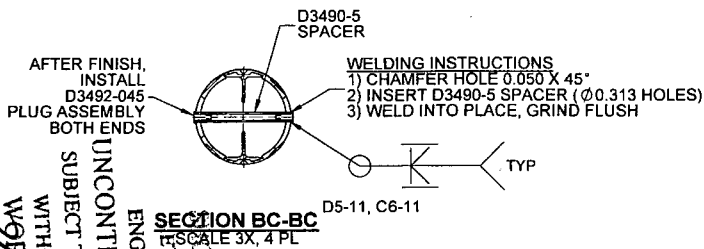
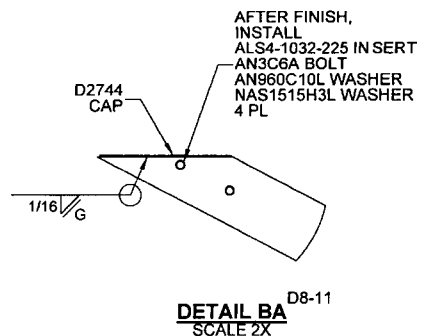
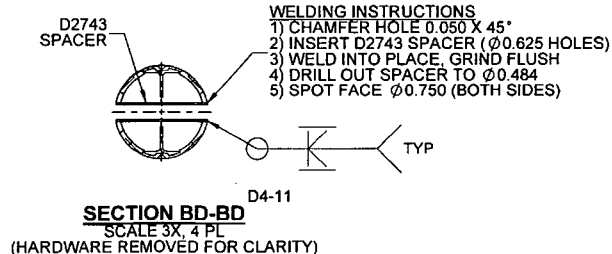
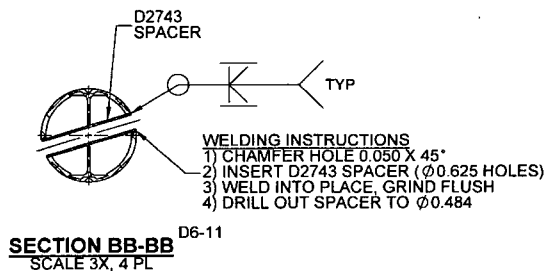


8 7 6 5 4 3 2 1



# **D2750-044 350 SKIDTUBE ASSEMBLY, RH**

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06.07.22



DESIGN	HA	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	HA	PORT HADLOCK, WA	
CHECKED	HA	DRAWING NO. <b>D2750</b>	REV. F
MFG. APPR.	HA		SHEET 11 OF 11
APPROVED	HA	TITLE <b>350 SKIDTUBE ASSEMBLY</b>	SCALE
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

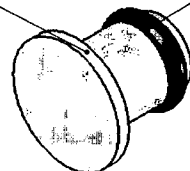
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

D3492-XX PLUG  
(SEE TABLE)

NAS1611 PLUG  
(SEE TABLE)



### D3492-XXX PLUG PARTS LIST

QTY -041	QTY -043	QTY -045	QTY -047	QTY -049	QTY -051	QTY -053	PART NUMBER	DESCRIPTION
X							D3492-041	PLUG ASSEMBLY
	X						D3492-043	PLUG ASSEMBLY
		X					D3492-045	PLUG ASSEMBLY
			X				D3492-047	PLUG ASSEMBLY
				X			D3492-049	PLUG ASSEMBLY
					X		D3492-051	PLUG ASSEMBLY
						X	D3492-053	PLUG ASSEMBLY
1							D3492-1	PLUG
	1						D3492-3	PLUG
		1					D3492-5	PLUG
			1				D3492-7	PLUG
				1			D3492-9	PLUG
					1		D3492-11	PLUG
						1	D3492-13	PLUG
		1					NAS1611-005	O-RING
			1				NAS1611-007	O-RING
1							NAS1611-010	O-RING
						1	NAS1611-012	O-RING
	1						NAS1611-013	O-RING
					1		NAS1611-015	O-RING
				1			NAS1611-016	O-RING

△ △ △







#### NOTES:

1) O-RING: POSSIBLE SUPPLIER P/N: NAS1611-XXX OR PARKER 2-XXX

~~UNDER REVIEW~~  
08.04.21  
OK ASS 08.11.12

DEO ATTACHED

RELEASED  
08.11.16

C	ADD -049/-051/-053, CHANGE DRAWING FORMAT	PH	07.10.05
B	ADD -047; UPDATE DIM A FOR -045	PH	06.05.11
A	NEW ISSUE	PH	06.01.04
REV.	DESCRIPTION	BY	DATE
DESIGN		<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.		DRAWING NO. REV. C	
		D3492 SHEET 1 OF 2	
		TITLE SCALE	
		PLUG 2:1	
DATE	07.10.05	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.	

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WORK ORDER  
NO. 46293

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

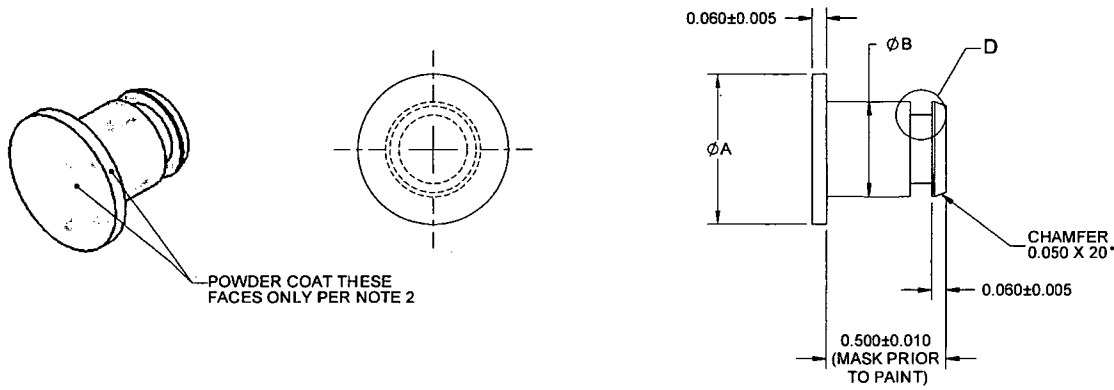
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

8 7 6 5 4 3 2 1



D3492-XX PLUG

D3492-XX PLUG MACHINING DETAILS

P/N	A	B	C	MATERIAL SPEC
D3492-1	0.625	0.394	0.055	M6061T6R0.625
D3492-3	0.750	0.582	0.045	M6061T6R0.750
D3492-5	0.375	0.188	0.045	M6061T6R0.375
D3492-7	0.500	0.270	0.045	M6061T6R0.500
D3492-9	0.938	0.750	0.045	M6061T6R1.000
D3492-11	0.850	0.664	0.045	M6061T6R0.875
D3492-13	0.750	0.520	0.045	M6061T6R0.750

- NOTES:
- 1) MATERIAL: ALUMINUM 5052-H32 OR 6061-T6 OR 1100-0 PER QQ-A-225/7 (5052) OR QQ-A-225/8 (6061) OR QQ-A-200/8 (6061) OR QQ-A-225/11 (1100) (REF. DART MATERIAL SPEC M6061T6R0.000)
  - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE GLOSS (4.3.5.1) PER DART QSI 005 4.3
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: N/A

UNDER REVIEW  
01.03.11  
DESIGN BY DART  
REV. 02 (HINKE SHAW)  
ASS 08.11.12  
OK

DEO ATTACHED  
RELEASED  
07.11.16

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DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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CHECKED			DRAWING NO. D3492
MFG. APPR.			REV. C
APPROVED			SHEET 2 OF 2
DE APPR.		TITLE PLUG	
DATE	07.10.05	SCALE 4:1	
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8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DRAWING NO. D3492	TITLE PLUG	REV. C	<b>DART AEROSPACE LTD ENGINEERING ORDER</b>		D.E.O. NO. D3492-C-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN AJS	CHECKED	MFG. APPR.	APPROVED		DE APPR.		
DATE 08.11.05	DATE 08.11.05	DATE 08.11.05	DATE 08/11/05		DATE 08/11/05		

SHEET 2 MODIFY -13 PLUG AS SHOWN:

IS:

**D3492-XX PLUG MACHINING DETAILS**

P/N	A	B	C	MATERIAL SPEC
D3492-13	0.750	0.510	0.045	M6061T6R0.750

WAS:

**D3492-XX PLUG MACHINING DETAILS**

P/N	A	B	C	MATERIAL SPEC
D3492-13	0.750	0.520	0.045	M6061T6R0.750

**RELEASED**  
08/11/10

NO. 210793  
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



NO. 196

**AWS D17.1.2001  
QUALIFICATION TEST RECORD**

Name: Barclay Elliott  
Job number: 47005  
Part number: D350 k36 011  
Description: 350 skid tube  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminium  
Current: AC[☒] DC[ ]

**TEST REQUIREMENTS AND RESULTS**

Visual:  
Penetration:

pass[☒] fail[ ]  
pass[☒] fail[ ]

**UNACCEPTABLE**

Cracks:  
Undercut:  
Pin holes:  
Overlap (cold lap)  
Porosity (surface):  
Coloration:

pass[☒] fail[ ]  
pass[☒] fail[ ]  
pass[☒] fail[ ]  
pass[☒] fail[ ]  
pass[☒] fail[ ]  
pass[☒] fail[ ]

Qualifier Pat. J. J. Date of Test Coupon 09-04-14  
Welder Barclay Elliott Date of Test Coupon 09-04-14

The above named individual is qualified in accordance with AWS D17.1.2001 to weld